

REMARKS

Claims 1 to 26 and 77 to 80 are all the claims pending in the application, prior to the present Amendment.

Applicants have added new dependent claims 81 and 82. Support for amended claim 81 is found at page 25, last paragraph and page 26 first paragraph of the specification. Support for new claim 82 can be found at page 62, lines 5 to 12.

Concerning claim 79, applicants have amended claim 79 to correct an error that appeared in the Preliminary Amendment.

Claims 1, 2, 12-14, 23, 24, 26, 77, 79 and 80 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. 2002/0048680 to Yamanaka.

Applicants submit that Yamanaka does not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of this rejection.

The present invention as set forth in claim 1 as amended above is directed to a curable composition comprising an organic polymer (A1) having one or more silicon-containing functional groups capable of cross-linking by forming siloxane bonds in which the one or more silicon-containing functional groups capable of cross-linking by forming siloxane bonds are silicon-containing functional groups each having three or more hydrolyzable groups on one or more silicon atoms thereof, wherein the silicon-containing functional groups are located at the terminals of the molecular chain of the organic polymer (A1); and a component which is selected from the group consisting of (a) a silicate (B), (b) a tin carboxylate (C1) in which the α -carbon of the carboxyl group is a quaternary carbon atom, (c) a tin carboxylate (C) and an organotin catalyst (D), (d) a non-tin catalyst (E), and (e) a microballoon (F).

Thus, applicants have amended claim 1 to state that the silicon-containing functional groups are located at the terminals of the molecular chain of the organic polymer (A1). Support for the amendment to claim 1 can be found at page 32, fourth line from the bottom to page 33, line 4 of the specification.

In the present invention, a cross-linked cured article of the curable composition obtained through the silanol condensation reaction involving the reactive silicon groups exhibits a satisfactory recovery properties, and also exhibits marked improvement effects on the creep resistance and the durability as compared to the case of a reactive silicon group-containing organic polymer in which each of the reactive silicon groups has two or less hydrolyzable groups. See the second paragraph at page 30 of the specification.

Further, since the silicon-containing functional groups are located at the terminals of the molecular chain of the organic polymer, the effective chain density in the organic polymer (A) component contained in the finally formed cured article becomes large, so that it becomes easier to obtain a rubber-like cured article having a high strength, a high elongation property and a low elastic modulus. See page 32, last two lines to page 33, line 4 of the specification.

Therefore, the present invention employs a combination of an organic polymer (A1) having functional groups of a specific structure at the terminals of the molecular chain and a silicon compound having a specific structure to provide the abovementioned effect.

In order to demonstrate the effect of the combination, applicants enclose a Declaration Under 37 C.F.R. § 1.132 in support of the patentability of the present invention.

The Examiner has asserted that the vinyl polymer produced in the production example of Yamanaka satisfies the structural limitations for component(A1) of claim 1. However, the vinyl polymer produced in the production example of Yamanaka **does not** have silicon-containing

functional groups which are located at the terminals of the molecular chain of the vinyl polymer.

This is clear from the manufacturing process described in paragraph [0091] of Yamanaka.

In view of the above, applicants submit that Yamanaka does not anticipate the present claims and, accordingly, request withdrawal of this rejection.

Claims 1-3, 12-14, 22-24, 26, 77, 79 and 80 have been rejected under 35 U.S.C. § 102(b) as anticipated by over U.S. 4,818,790 to Ooka et al.

Applicants submit that Ooka et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

The Examiner asserts that Ooka et al disclose a polymer (B-1) having trimethoxysilane pendant groups, and disclose a list of possible silane-containing vinyl monomers, including those having trimethoxy and triethoxy groups. However, a polymer (B-1) having trimethoxysilane pendant groups **does not** have silicon-containing functional groups which are located at the terminals of the molecular chain of the polymer (B-1), as recited in claim 1. This is clear from the manufacturing process in the Referential Example 9 of Ooka et al.

In view of the above, applicants submit that Ooka et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

Claims 1, 2, 12-14, 22-25, 77, 79 and 80 have been rejected under 35 U.S.C. § 102(b) as anticipated by over U.S. 4,559,387 to Endo et al

Applicants submit that Endo et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

The Examiner has asserted that Example 3-1 of Endo et al teaches a curable composition comprising a silane-modified resin having trimethoxysilane pendant groups, and that Endo et al disclose a list of possible silane-containing vinyl monomers/capping agents, including those

having trimethoxy and triethoxy groups. However, the silane-modified resin in Example 3-1 of Endo et al **does not** have silicon-containing functional groups which are located at the terminals of the molecular chain of the silane-modified resin. This is clear from the manufacturing process in the Production Examples 1 and 2 of Endo et al.

In view of the above, applicants submit that Endo et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

Claims 1-3, 12-14, 22-26, 77, 79 and 80 have been rejected under 35 U.S.C. § 102(b) as anticipated by over U.S. 5,639,825 to Nanbu et al, which the Examiner refers to as "Nanbu et al."

Applicants submit that Nanbu et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

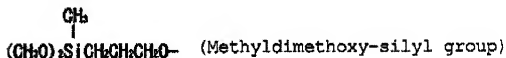
The Examiner has asserted that Example 3 of Nanbu et al teaches a curable composition comprising a silane-modified resin having trimethoxysilane pendant groups, and that Nanbu et al discloses a list of possible silane-containing vinyl monomers/capping agents, including those having trimethoxy and triethoxy groups. However, the silane-modified resin in Example 3 of Nanbu et al **does not** have silicon-containing functional groups which are located at the terminals of the molecular chain of the silane-modified resin. This is clear from the manufacturing process in Preparation Example 1 of Nanbu et al.

In view of the above, applicants submit that Nanbu et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

Claims 1-3, 12-14, 22-26, 77, 79 and 80 have been rejected under 35 U.S.C. § 102(b) as anticipated by over U.S. 6,977,228 to Wakabayashi et al.

Applicants submit that Wakabayashi et al do not anticipate the present claims and, accordingly, request withdrawal of this rejection.

In Preparation Example 2 of Wakabayashi et al, to which the Examiner has referred, a curable composition is disclosed that comprises a polyoxypropylene base polymer having a molecular weight of about 8,200 and 1.7 groups of the formula:



per molecule on average, and a compound having trialkoxysilyl groups.

Moreover, Wakabayashi et al describe that alkyltrimethoxysilanes and alkyltriethoxysilanes are preferable as the silicon-containing compounds (C).

On the other hand, in Preparation Example 2 of Wakabayashi et al, an organic polymer having a trimethoxy-silyl group at the terminals of the molecular chain is not used, and silicate also is not used.

As mentioned above, in the present invention, since the curable composition comprising the organic polymer (Al) having functional groups of a specific structure at the terminals of the molecular chain and a silicate (silicon compound having a specific structure), a cross-linked cured article thereof exhibits marked improvement effects on the creep resistance and recovery properties, as compared to the case of the curable composition comprising alkyltrialkoxysilanes and/or a reactive silicon group-containing organic polymer in which each of the reactive silicon groups has two or less hydrolyzable groups.

This is clear from the Table 1 and 2 of present description and the enclosed Declaration.

Moreover, these effects are not taught in Wakabayashi et al. Therefore, these effects of the present invention are unexpected.

In addition, a curable composition of claims 2, 3 or 82 exhibits further excellent marked improvement effects on the creep resistance and recovery properties.

In view of the above, applicants submit that Wakabayashi et al do not anticipate or render obvious the present claims and, accordingly, request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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CUSTOMER NUMBER

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